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Web API Specification for the

OTC Reporting Facility

File Downloads - ORF

Version 5.0

September 9, 2014

Revision History

Version/Date	Changes Made
Version 1.0; 2/10/2014	• Original version of specification
Version 2.0; 3/19/2014	• Changes are described in Appendix A – Version 2.0 Summary of Changes
Version 3.0; 4/22/2014	• Add field length (14) for FINRA_OTC_ID; • Change field length from 11 to 15 bytes for: ADR_ORDNY_SHARE_RT; OLD ADR_ORDNY_SHARE_RT; and NEW ADR_ORDNY_SHARE_RT
Version 4.0; 6/10/2014	• CLASS_TX Description – Relates to Class or Series of Security • SUBJ_CRPRT_ACTN_CD – Values changed from Y/N to CA/CD • Appendix B - Included table of values for DAILY_LIST_RSN_CD
Version 5.0; 9/9/2014	• Added value definitions for Offering Type (OFRNG_TYPE_CD) • Added value definitions for Financial Status Indicator (FNNCL_STTS_CD) • Defined field as ratio for ADR to Ordinary Share Ratio (ADR_ORDNY_SHARE_RT) • Defined field as ratio for Forward Split Ratio (FRWRD_SPLIT_RT) and Reverse Split Ratio (RVRS_SPLIT_RT) • Added Daily List Reason Codes in Appendix B and Descriptions, RSFS: SCAFR; F1534 • Added Appendix C – Equity Master Security Code Descriptions (SCTRY_TYPE_CD) table

Introduction

The FINRA Trade Reporting and Quotation Service (TRAQS™) is a system developed by FINRA in order to facilitate the various fixed income and equity reporting facilities FINRA currently maintains (e.g., TRACE, TRF, ADF, OTC Equity Reporting, etc…) into a single platform.

The TRAQS Download domain supports client needs via Web Application Programming Interface (API) to download the security master and other files.

Access to the file domain

Equity file downloads use the NASDAQ Web Security Framework (NWSF) for authentication (proper client authorization for access to particular files must be in place). In order to access the site and

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download files, a user needs to present a valid NWSF account/password and client certificate with access to the application.

The Security Master is maintained by FINRA Operations. For questions concerning the data in this file, or to subscribe to receive the file, please contact FINRA Operations at (866) 776-0800 or FINRAOperations@finra.org. For technical questions or issues accessing the file, please contact FINRA Product Management at (866) 899-2107 or FINRAProductManagement@finra.org.

Protocol

FINRA's download site provides access to all of the files using standard HTTP Secure (https) protocol. It is a combination of the Hypertext Transfer protocol and the SSL/TLS protocol to provide encrypted communications and secure identification. The URL https://download.finratraqs.org is the domain where the file resides. In order to access file reference data users should refer to the query string detailed in the specification.

File availability – all times are approximate

File	Time
Start of day security master file; participant master file; daily list participant; clearing number relationship file; participant agreements file; explicit fee agreement file; daily list security file	7:00 a.m. ET; and available throughout the day on a near-real time basis.
Final possible file updates	8:00 p.m. ET

Users may attempt to access the files on non-business days; however, due to server maintenance which occurs on weekends and other non-business days it is possible the user will not have immediate success in accessing the data during these days.

URL Parameters

Parameter	Parameter Options
Action	**DOWNLOAD** - provide the file. **DELTA** – provide the changes since the last time the user downloaded the file. Delta actions are supported for Security Daily List and Participant Daily List files.
Facility	**ORF**
Files	**EQUITYMASTERAC** – Equity Security Master File Active issues **EQUITYMASTERIN** –Equity Security Master File Inactive issues **DAILYLIST** – Security Daily List for OTC Reporting Facility **PARTICIPANT** – Equity Participant Master File **PDAILYLIST**– Equity Participant Daily List **EQUITYCLEAR** – Equity Clearing Relationship File **EQUITYUSA** – Equity US Agreements File **EXPLICITFEE –** Explicit Fee Agreement File

All files are pipe delimited.

File	Query Parameters
Equity Security Master – Active issues	action=DOWNLOAD&file=EQUITYMASTERAC&facility=ORF
Equity Security Master – Inactive issues	action=DOWNLOAD&file=EQUITYMASTERIN&facility=ORF
Equity Participant Master	action=DOWNLOAD&file=PARTICIPANT&facility=ORF
Equity Participant Daily List	action=DOWNLOAD&file=PDAILYLIST&facility=ORF
Equity Participant Daily List delta	action=DELTA&file=PDAILYLIST&facility=ORF
Equity Clearing Relationship	action=DOWNLOAD&file=EQUITYCLEAR&facility=ORF
Equity US Agreements	action=DOWNLOAD&file=EQUITYUSA&facility=ORF
Explicit Fee	action=DOWNLOAD&file=EQUITYEXPLICITFEE&facility=ORF
Security Daily List delta (See note 1)	action=DELTA&file=DAILYLIST&facility=ORF
Security Daily List for a specific day	action=DOWNLOAD&file=DAILYLIST&facility=ORF&day=6/2/2014

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ORF - Equity Security Master File (Active and Inactive issues)

Field Name (Header)	Description	Comments	Maximum Length
FINRA_OTC_ID	FINRA OTC Security ID Symbol	Security Id generated by FINRA RDMS System.	14
CUSIP_ID	CUSIP	This field will be blank for firms that do not have a CUSIP license in place.	9
SYM_CD	Security Symbol	Local exchange symbol.	14
SYM_SUF_CD	Symbol Suffix		7
SCRTY_DS	Security Description	Security Description/Name.	250
RND_LOT_QT	Round Lot Size	Min. number of shares that can be purchased without incurring a larger fee.	4
CPN_RT	Coupon Rate		6
DTC_ELGBL_FL	DTC Eligibility Flag	Indicates if security is eligible to be delivered through a computerized system established by DTCC.	1
SCRTY_TYPE_CD	Security Type	Security Type Description.	4
WIS_DSTRD_CD	When Issued Flag	Indicates if the security does not have a firm settlement. WI or WD.	2
STTS_CD	Status Code	Indicates if security is active, inactive or terminated.	1
NACTV_DT	Inactive date and time	Format is YYYYMMDDHHMMSS	14
TEST_SCRTY_FL	Test Security Flag to indicate whether the security is used for testing. Default value will be 'N"		1
PRICE_CK_FL	Price Check Flag		1
SCRTY_EFCTV_TS	Security effective time stamp	Format is YYYYMMDDHHMMSS	14
SIP_SYM_ID	SIP Symbol		21
OTCBB_QUOTE_FL		Y or N	1
CLASS_TX	Class or Series of Security		2
OFRNG_TYPE_CD	Offering Type	A – 144A S – Reg S B – 144A and Reg S N – No Restrictions	1

Field Name (Header)	Description	Comments	Maximum Length
MTRTY_XPRTN_DT	Maturity/Expiration date	Format is YYYYMMDDHHMMSS	14
NSCC_ELGBL_FL	NSCC Clearing Eligible Flag		1
DSMTN_FL	Dissemination Flag		1
SUBJ_CRPRT_ACTN_CD	Subject to Corporate Action	CA – Corporate Action without a distribution CD – Corporate Action with a distribution	2
ADR_ORDNY_SHARE_RT	ADR to Ordinary Share Ratio	Ratio	15
BRKR_PRTCT_PRD_FL	Broker Protect Period Flag		1
PGYBK_ELGBL_FL	Piggyback Eligible Flag		1
REG_FEE_FL	Reg Fee Flag	N if Offering Type is144A or 144A and Reg S; Y if Offering Type is No Restrictions or Reg S	1
REG_SHO_FL	Reg SHO Flag		1
RULE_4320_FL	4320 Flag		1
OATS_RPTBL_FL	OATS Flag		1
FNNCL_STTS_CD	Financial Status Indicator	E - Delinquent Q – Bankrupt J - Delinquent and Bankrupt L - Liquidation H -Liquidation and Delinquent M -Bankruptcy Reorganization (Emerged)	1
LAST_UPDT_TS	Timestamp value when record was created	Format is YYYYMMDDHHMMSS	14

ORF Daily List (for Securities)

Field Name (Header)	Description	Comments	Maximum Length
DAILY_LIST_TS	Daily List Date/Time	YYYYMMDDHHMMSS format.	14
DAILY_LIST_EVENT_CD	Daily List Event Type	Valid values are: SA - Security Addition SC – Security Change SD – Security Deletion DA – Dividend Addition DC – Dividend Change DD – Dividend Deletion/Cancellation *Note: for corporate actions where the security attribute changes and a distribution is announced (i.e., Forward Split, Reverse Split, Stock Dividend or Split, Reverse Split followed by Forward Split), the Change Type shall be Dividend Addition.*	2
OLD_SYM_CD	Old Symbol		14
NEW_SYM_CD	New Symbol		14
OLD_CUSIP_ID	Old Cusip		9
NEW_CUSIP_ID	New Cusip		9
OLD_SCRTY_DS	Old Security Description		250
NEW_SCRTY_DS	New Security Description		250
OLD_FNNCL_STTS_CD	Old Financial Status Indicator		1
NEW_FNNCL_STTS_CD	New Financial Status Indicator		1
OLD_OATS_RPTBL_FL	Old OATS Reportable Flag		1
NEW_OATS_RPTBL_FL	New OATS Reportable Flag		1

Field Name (Header)	Description	Comments	Maximum Length
OLD_RND_LOT_QT	Old Unit of Trade		4
NEW_RND_LOT_QT	New Unit of Trade		4
OLD_CLASS_TX	Old Class or Series of Security		2
NEW_CLASS_TX	New Class or Series of Security		2
OLD_ADR_ORDNY_SHARE_RT	Old ADR Ratio	Ratio	15
NEW_ADR_ORDNY_SHARE_RT	New ADR Ratio	Ratio	15
OLD_REG_FEE_FL	Old Reg Fee Flag		1
NEW_REG_FEE_FL	New Reg Fee Flag		1
OLD_MTRTY_XPRTN_DT	Old Maturity Date	YYYYMMDDHHMMSS format.	14
NEW_MTRTY_XPRTN_DT	New Maturity Date	YYYYMMDDHHMMSS format.	14
OLD_MKT_CTGRY_CD	Old Market Category Code	U – OTCBB u – Other OTC	1
NEW_MKT_CTGRY_CD	New Market Category Code	U – OTCBB u – Other OTC	1
OFRNG_TYPE_CD	Offering Type	A – 144A S – Reg S B – 144A and Reg S N – No Restrictions	1
SUBJ_CRPRT_ACTN_CD	Subject to Corp Action	CA – Corporate Action without a distribution CD – Corporate Action with a distribution	2
DCLRN_DT	Declaration Date	YYYYMMDDHHMMSS format.	14
PYMNT_DT	Payment Date	YYYYMMDDHHMMSS format.	14
EX_DT	This is the "change effective date", i.e., the effective date of the change being announced on the Daily List or the Ex Date of the Dividend.	YYYYMMDDHHMMSS format.	14
REC_DT	Record Date	YYYYMMDDHHMMSS format.	14
FRWRD_SPLIT_RT	Forward Split Ratio	Ratio	10
RVRS_SPLIT_RT	Reverse Split Ratio	Ratio	10
STOCK_PT	Percentage	Decimal	10; 4 after the decimal

Field Name (Header)	Description	Comments	Maximum Length
CASH_AMT_TX	Cash Amount	Decimal	25
PYMNT_MTHD_CD	Payment Method		3
ADR_FEE_AM	ADR Dividend Fee	Decimal	10; 4 after the decimal
ADR_TAX_RLF_AM	ADR Tax Relief Fee	Decimal	10; 4 after the decimal
ADR_GROSS_RT	ADR Gross Rate	Decimal	18; 7 after the decimal
Field Name (Header)	**Description**	**Comments**	**Maximum Length**
ADR_NET_RT	ADR Net Rate	Decimal	18; 7 after the decimal
ADR_ISSNC_FEE_AM	ADR Issuance Fee	Decimal	10; 4 after the decimal
ADR_WHLDG_TAX_PT	ADR Withholding Tax	Decimal	10; 4 after the decimal
QLFD_CD	Qualified Dividend Code		1
DAILY_LIST_RSN_CD	Change Reason Description	Refer to Appendix B for values and descriptions	5
CMMNT_TX	Comments		500

ORF - Equity Participant Master File

Field Name (Header)	Description	Comments	Maximum Length
MPID	Market Participant Identifier	FINRA identifier assigned to the participant.	6
DBA_NM	Firm Name		64

ORF - Equity Participant Daily List

Field Name (Header)	Description	Comments	Maximum Length
list_dt	Daily List Date	Format is MMDDYYYY	
effective_dt	Effective Date	Format is MMDDYYYY	
cd_description	Event Type	Valid values are: Participant Addition Participant Deletion Participant Change	
old_mpid	Market Participant Identifier		6
old_dba	Firm Name		64
new_mpid	New Market Participant Identifier		6
new_dba	New Firm Name		64
rf_cd	Reporting Facility	Value will always be ORF	

ORF - Equity Clearing Relationship File

Field Name (Header)	Description	Comments	Maximum Length
MPID	MPID of the Client	FINRA identifier assigned to the participant.	6
CLRG_ORG_NB	Clearing Number of Clearing Org used by the MPID		5
CLRG_FIRM_NM	Clearing Firm Name	Name of Clearing Firm Organization.	64
CLRG_EFCTV_DT	Clearing Relationship Effective Date	Format is YYYYMMDDHHMMSS	14
CLRG_XPRTN_DT	Clearing Relationship Expiration Date	Format is YYYYMMDDHHMMSS	14
PRMRY_CLRG_FL	Default Clearing Relationship flag	Value will be Y or N to state if the clearing number in this record is the default clearing number.	1

ORF - Equity US Agreements File

Field Name (Header)	Description	Comments	Maximum Length
MPID	MPID of the Client	FINRA identifier assigned to the participant.	6
AGRMT_EFCTV_DT	Effective Date for the agreement with the client	Format is YYYYMMDDHHMMSS	14
AGRMT_XPRTN_DT	End date for agreement with the client	Format is YYMMDDHHMMSS	12
UNFRM_SRVC_AGRMT_MP_ID	MPID of client with who agreement is based	FINRA identifier assigned to the participant.	6
US_GIVEUP_DROP_FL	Give Up firm receives drop copies of transaction messages	Y or N.	

ORF – Explicit Fee File

Field Name (Header)	Description	Comments	Maximum Length
MPID_1	MPID of the Client	FINRA identifier assigned to the participant.	6
CLRG_FIRM_NM_1	Clearing Firm Name for first MPID	Name of Clearing Firm Organization.	64
MPID_2	MPID of Client 2 in file	FINRA identifier assigned to the second participant.	6
CLRG_FIRM_NM_2	Clearing Firm Name for second MPID	Name of Clearing Firm Organization for second participant.	64
AGRMT_EFCTV_DT	Effective Date for the agreement with the client	Format is YYYYMMDDHHMMSS	14
AGRMT_XPRTN_DT	End date for agreement with the client	Format is YYMMDDHHMMSS	12

Example Requests

Example - Get the current active Equity Security Master file

https://download.finratraqs.org/DownloadHandler.ashx?action=DOWNLOAD&file=
EQUITYMASTERAC&facility=ORF

Example - Get the current Equity Participant Master file

https://download.finratraqs.org/DownloadHandler.ashx?action=DOWNLOAD &file=
PARTICIPANT&facility=ORF

Example - Get the current Equity Clearing Relationship Master file

https://download.finratraqs.org/DownloadHandler.ashx?action=DOWNLOAD &file=
EQUITYCLEAR&facility=ORF

Example - Get the current Equity US Agreements Master file

https://download.finratraqs.org/DownloadHandler.ashx?action=DOWNLOAD &file=
EQUITYUSA&facility=ORF

Example - Get the current Explicit Fee file

https://download.finratraqs.org/DownloadHandler.ashx?action=DOWNLOAD &file=
EQUITYEXPLICITFEE&facility=ORF

Appendix A – Version 2.0 Summary of Changes:

Version 2.0 changes

EQUITY SECURITY MASTER FILE

Previous Field Name	New Field Name	Previous Maximum Length	New Maximum Length
FINRA_EQTY_ID	FINRA_OTC_ID		
(FIELD ADDED)	SYM_SUF_CD		7
CPN_RT		28	6
WIS_DIS_CD	WIS_DSTRD_CD		
SUBJ_CRPRT_ACTN_FL	SUBJ_CRPRT_ACTN_CD	1	2
ORDNY_ADR_RT	ADR_ORDNY_SHARE_RT		
4320_FL	RULE_4320_FL		
(FIELD ADDED)	OATS_RPTBL_FL		1
(FIELD ADDED)	FNNCL_STTS_CD		1
TS	LAST_UPDT_TS		

DAILY LIST FILE

Previous Field Name	New Field Name	Previous Maximum Length	New Maximum Length
DAILY_LIST_EFCTV_TS	DAILY_LIST_TS		
OLD_FNNCL_STTS_DS	OLD_FNNCL_STTS_CD	50	1
NEW_FNNCL_STTS_DS	NEW_FNNCL_STTS_CD	50	1
OLD_ORDNY_ADR_RT	OLD_ADR_ORDNY_SHARE_RT		
NEW_ORDNY_ADR_RT	NEW_ADR_ORDNY_SHARE_RT		
OLD_XPRTN_DT	OLD_MTRTY_XPRTN_DT		
NEW_XPRTN_DT	NEW_MTRTY_XPRTN_DT		
OFRNG_TYPE_DS	OFRNG_TYPE_CD	50	1
SUBJ_CRPRT_ACTN_DS	SUBJ_CRPRT_ACTN_CD	50	2
SPLIT_FCTR_RT	FRWRD_SPLIT_RT	11	10
(FIELD ADDED)	RVRS_SPLIT_RT		10
STOCK_PT		11	10
CASH_DVDND_AM	CASH_AMT_TX	11	25
ADR_FEE_AM		11	10
ADR_TAX_RLF_AM		11	10
ADR_GRSS_RT	ADR_GROSS_RT	11	18
ADR_NET_RT		11	18
ADR_ISSNC_FEE_AM		11	10
ADR_WTHLD_TAX_AM	ADR_WHLDG_TAX_PT	11	10
QLFD_DVDND_DS	QLFD_CD	50	1
DAILY_LIST_RSN_DS	DAILY_LIST_RSN_CD	50	5
DVDND_TYPE_CD	(FIELD DELETED)	2	
DVDND_NON_ADR_FL	(FIELD DELETED)	1	
DVDND_ADR_FL	(FIELD DELETED)	1	

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Added - Equity Participant Daily List Data Layout

Field Name (Header)	Description	Comments	Maximum Length
list_dt	Daily List Date	Format is MMDDYYYY	
effective_dt	Effective Date	Format is MMDDYYYY	
cd_description	Event Type	Valid values are: Participant Addition Participant Deletion Participant Change	
old_mpid	Market Participant Identifier		6
old_dba	Firm Name		64
new_mpid	New Market Participant Identifier		6
new_dba	New Firm Name		64
rf_cd	Reporting Facility	Value will always be ORF	

Appendix B – Daily List Reason Code Descriptions:

Daily List Reason Code – DAILY_LIST_RSN_CD	Daily List Reason Code Description
12J	12(j)Registration Revoked by SEC
ADD	Addition
AMM	Acquisition/Merger/Amalgamation
BCSHD	Bankruptcy Cash Distribution
BPESC	Bankruptcy Plan Effective/Shares Cancelled
BSD	Bankruptcy Plan Effective Shares Cancelled/Distribution
BSTKD	Bankruptcy Stock Distribution
CALLD	Called
CCD	Charter Cancelled/Dissolution
CDR	Cash Dividend Regular
CDRS	Cash Dividend Regular and Special
CDS	Cash Dividend Special
CNVRC	Conversion/Reclassification
CSDR	Cash and/or Stock Dividend Regular
CSDRS	Cash and/or Stock Dividend Regular and Special
CSDS	Cash and/or Stock Dividend Special
CSPCD	CUSIP Change
CSPSP	CUSIP Suspended
DCSHD	Default Interest (Cash) Distribution
DSTKD	Default Stock Distribution
F6530	Failure to Comply with FINRA Rule 6530
FS	Forward Split
FSCCD	Forward Split/CUSIP Change
FSCE	Financial Status Change Delinquent = E
FSCJ	Financial Status Change Bankrupt and Delinquent = J
FSCLD	Financial Status Change Liquidation and Delinquent = H
FSCM	Financial Status Change Bankruptcy Reorganization (Emerged) = M
FSCQ	Financial Status Change Bankruptcy = Q
IN	Ineligible
LFD	Liquidation/Final Distribution
MATCD	Maturity Date Change
MATEX	Matured/Expired
MC	Market Center Change
NACTV	Inactive Security
NMCCD	Name/CUSIP Change
NMCHG	Name Change
NMSMC	Name/Symbol/CUSIP Change
NMSYM	Name/Symbol Change
NQT	Ineligible for Quotation on OTCBB due to quoting inactivity under SEC Rule 15c-211
O	Other
PRVTN	Company Going Private
RDMPT	Redemption

Daily List Reason Code – DAILY_LIST_RSN_CD	Daily List Reason Code Description
RSFS	Reverse Split followed by Forward Split
RSCCD	Reverse Split/CUSIP Change
RSFFS	Reverse Split followed by Forward Split/CUSIP Change
RSTMT	Reinstatement
SDPAS	Stock Dividend Payable in Another Security
SDR	Stock Dividend Regular
SDRS	Stock Dividend Regular and Special
SDS	Stock Dividend Special
SO	Spin-Off
SCAFR	Subject to Corporate Action Flag Removed
SYMCD	Symbol Change
TERMD	ADR/GDR Program Terminated
TO	Tender Offer
F1534	Terminated Registration under the 34 Act
US	Unit Separation
XCHG	Exchanged
XR	Ex Rights
XTRDH	Extended Trading Halt
XW	Ex Warrants

Appendix C – Equity Master Security Type Cd Descriptions:

Security Type Code – SCTRY_TYPE_CD	Security Type Code Description
ADRS	American Depository Receipts – Sponsored
ADRU	American Depository Receipts – Unsponsored
ADSS	American Depository Shares – Sponsored
ADSU	American Depository Shares – Unsponsored
CERT	Trust Certificates
CMSH	Common Shares
COMS	Common Stock
DPRT	Depository Receipts
DPSH	Depository Shares
ETF	Exchange Traded Fund
FETF	Foreign Exchange Traded Fund
GBDR	Global Depository Receipts – Sponsored
GBDS	Global Depository Shares – Sponsored
GBRU	Global Depository Receipts – Unsponsored
GBSU	Global Depository Shares - Unsponsored
LQTR	Liquidating Trust
LTDP	DPP/Limited Partnership
MGFS	Managed Fund Shares
ORDY	Ordinary Fund Shares
OTHR	Other
PREF	Preference Shares
PRES	Preferred Stock
REIT	REIT

RTCL	Rights Contingent Litigation
RTCU	Rights Currency
RTCV	Contingent Value Rights
RTOT	Rights
TRST	Shares of Beneficial Interest
UNOT	Unit
WRCL	Warrant Contingent Litigation
WRCU	Warrant Currency
WROT	Warrant

Appendix D

Programmatic Access (C#, .NET example)

The following is a code excerpt to illustrate how to use the MPP Download site programmatically. If you are going to access the site with an application the first step is to download the NWSF client certificate using your web browser. Install it in the browser then export the certificate from the browser, saving the certificate to a location on the machine as an X905 certificate (.cer).

Example using the active Equity Security Master:

```csharp
string Action = "DOWNLOAD";
string file = "EQUITYMASTERAC";
string facility = "ORF";

string site =     "https:// download.finratraqs.org/DownloadHandler.ashx";
string query = string.Format("{0}?action={1}&file={2}&facility={3}", site,
                              Action, file, facility);


// Create request
HttpWebRequest webRequest = WebRequest.Create(query) as HttpWebRequest;

// Get cert and add to request
X509Certificate Cert =
      X509Certificate.CreateFromCertFile("C:\\MPP\\cert\\mpp_cert.cer");

webRequest.ClientCertificates.Add(Cert);
webRequest.Method = "GET";


// Add nwsf user/password to request

NetworkCredential nwCredentials = new NetworkCredential("user", "pwd");
webRequest.Credentials = nwCredentials;

// Make the request
HttpWebResponse Response = (HttpWebResponse)webRequest.GetResponse();

// Fiddle with the header in the response to get the file name

int pos = Response.Headers["Content-Disposition"].IndexOf("TRACE");

string Filename = Response.Headers["Content-Disposition"].Substring(pos);

// Create a file to save it in ..
StreamWriter sw = new StreamWriter("C:\\MPP\\files\\" + Filename, false);

StreamReader sr = new StreamReader(Response.GetResponseStream(),
                          Encoding.Default);
int cnt;
char [] ReadBuf = new char[1024];

while ((cnt = sr.Read(ReadBuf, 0, 1024)) != 0)
{
  sw.Write(ReadBuf);
}
```