It is often beneficial to be able to access and control a MediaXtreme player from anywhere in the world over the internet, as opposed to simply over a Local Area Network where the pc accessing the MediaXtreme player must be connected to the same Local Area Network. In order to set up access over the internet you first must have an internet connection from an Internet Service Provider (ISP). Depending upon your service agreement the ISP may or may not provide you with a firewall router as part of the service. If a firewall router is not provided then one should be purchased to stand guard against the endless attacks by viruses, trojans, and malware ever present on the internet. The router need not necessarily be expensive or overly complex. Experience has proven that even the most simple router, properly configured, for the purposes of MediaXtreme players, will outperform even the most robust local antivirus software.

In either case, whether it is a router installed by the ISP, or your own, it must be configured to forward the right traffic through to the MediaXtreme player. Although there are many ways to do this, one of the most straight forward and still effective ways for this limited purpose is called <u>port forwarding</u>. The one essential port to forward traffic on is port 21 for traffic bound for the MediaXtreme player's FTP server. Below is a screen shot of the port forwarding option for the Linksys model BEFSR41 Etherfast Cable / DSL Router (available for \$60 or less at most stores). The port forwarding option is listed under the Applications and Gaming menu for this particular router.

A Division of Cisco Systems, Inc.								F	irmware Version: 2.00.0	
Applications & Gaming	Etherfast® Cable/DSL Router BEFSR41									
	Setup		Security		Application: & Gaming	s Adminis	tration	Status		
	Port Range Fo	orwarding	Į	Port Tr	iggering	UPnP Forwar	ding	DMZ	QoS	
Port Range Forwarding								Port Ran	ge Forwarding	
	Port Range							Port Range Forwarding can be		
	Application	Star	t	End	Protocol	IP Address	Enabled	used to set up public services on your network. When users		
	ftp	21	to	21	Both 💌	192.168.1.10	N	from the Internet make certain requests on your network, the Router can forward those requests to computers equipped to handle the requests. If, for example, you set the port number 80 (HTTP) to be forwarded to IP Address 192,168.1.2, then all HTTP requests from outside users will be forwarded to 192.168.1.2. It		
	vnc	5900	to	5900	Both 💌	192.168.1.10				
		0	to	0	Both 💌	192.168.1.0				
		0	to	0	Both 💌	192.168.1.0				
		0	to	0	Both 💌	192.168.1.0				
		0	to	0	Both 💌	192.168.1.0		is recommended that the computer use static IP		
		0	to	0	Both 💌	192.168.1.0		address.		
		0	to	0	Both 💌	192.168.1.0		You may use this function to establish a web server or FTP		
		0	to	0	Both 💌	192.168.1.0] []	server via an IP Gateway. Be sure that you enter a valid		
		0	to	0	Both 💌	192.168.1.0		More		
					1995 - 1995 - 1995 - 1996 - 1996 - 1996 - 1996 - 1996 - 1996 - 1996 - 1996 - 1996 - 1996 - 1996 - 1996 - 1996 -				CISCO SYSTEMS	
					Save Sett	tings C <u>anc</u>	el Changes		الاستينالية	

In addition to port 21 for FTP traffic an additional port has also been forwarded for VNC traffic. VNC is a free tool often used for remote desktop administration and is non-essential to the functionality of the MediaXtreme software. Keywest Technology does recommend utilizing VNC service in case access to the Windows desktop is needed for any reason.

Utilizing port forwarding essentially narrows down access to the MediaXtreme player on any one, or all, of the thousands of ports in existence, to only one or two needed for successful operation and control. In addition, all traffic on these ports is password protected. The IP address that the port are being forwarded to must match the static IP address of the MediaXtreme player and should be a <u>private IP</u> address e.g. 10.x.x.x, 192.168.x.x, or 172.16-31.x.x as opposed to an IP address accessible from the internet. The external IP address is set up as the router's IP and the router forwards only the password protected traffic on the needed ports to the MediaXtreme player's private IP address. The private IP address of the MediaXtreme player is always masked to the outside world using <u>Network Address</u> <u>Translation</u>. Ultimately, once the router is in place with port forwarding the functionality from anywhere in the world with internet access is no different. In the MediaXtreme scheduler the external IP address of the router is used to send schedules and files to (through the password protected ftp server) and now rather than going straight to the player along with all the viruses, trojans, and malware of the world wide web, the router only allows the desired traffic through.