

NAME

XkbFreeServerMap – Free memory used by the server member of an XkbDescRec structure

SYNOPSIS

```
void XkbFreeServerMap (XkbDescPtr xkb, unsigned int which, Bool free_all);
```

ARGUMENTS

xkb keyboard description containing server map to free

which mask identifying components of map to free

free_all

True => free all server map components and server itself

DESCRIPTION

The *XkbFreeServerMap* function frees the specified components of server map in the XkbDescRec structure specified by the *xkb* parameter and sets the corresponding structure component values to NULL. The *which* parameter specifies a combination of the server map masks and is a bitwise inclusive OR of the masks listed in Table 1. If *free_all* is True, *which* is ignored and *XkbFreeServerMap* frees every non-NULL structure component in the server map, frees the XkbServerMapRec structure referenced by the *server* member of the *xkb* parameter, and sets the *server* member to NULL.

Table 1 XkbAllocServerMap Masks

Mask	Effect
XkbExplicitComponentsMask	The <i>min_key_code</i> and <i>max_key_code</i> fields of the <i>xkb</i> parameter are used to allocate the explicit field of the server map.
XkbKeyActionsMask	The <i>min_key_code</i> and <i>max_key_code</i> fields of the <i>xkb</i> parameter are used to allocate the <i>key_acts</i> field of the server map. The <i>count_acts</i> parameter is used to allocate the <i>acts</i> field of the server map.
XkbKeyBehaviorsMask	The <i>min_key_code</i> and <i>max_key_code</i> fields of the <i>xkb</i> parameter are used to allocate the <i>behaviors</i> field of the server map.
XkbVirtualModMapMask	The <i>min_key_code</i> and <i>max_key_code</i> fields of the <i>xkb</i> parameter are used to allocate the <i>vmodmap</i> field of the server map.

STRUCTURES

The complete description of an Xkb keyboard is given by an XkbDescRec. The component structures in the XkbDescRec represent the major Xkb components.

```
typedef struct {
    struct _XDisplay * display; /* connection to X server */
    unsigned short flags; /* private to Xkb, do not modify */
    unsigned short device_spec; /* device of interest */
    KeyCode min_key_code; /* minimum keycode for device */
    KeyCode max_key_code; /* maximum keycode for device */
    XkbControlsPtr ctrls; /* controls */
    XkbServerMapPtr server; /* server keymap */
    XkbClientMapPtr map; /* client keymap */
    XkbIndicatorPtr indicators; /* indicator map */
    XkbNamesPtr names; /* names for all components */
    XkbCompatMapPtr compat; /* compatibility map */
    XkbGeometryPtr geom; /* physical geometry of keyboard */
} XkbDescRec, *XkbDescPtr;
```

The *display* field points to an X display structure. The *flags* field is private to the library: modifying *flags* may yield unpredictable results. The *device_spec* field specifies the device identifier of the keyboard input device, or `XkbUseCoreKeyboard`, which specifies the core keyboard device. The *min_key_code* and *max_key_code* fields specify the least and greatest keycode that can be returned by the keyboard.

Each structure component has a corresponding mask bit that is used in function calls to indicate that the structure should be manipulated in some manner, such as allocating it or freeing it. These masks and their relationships to the fields in the `XkbDescRec` are shown in Table 2.

Table 2 Mask Bits for `XkbDescRec`

Mask Bit	XkbDescRec Field	Value
<code>XkbControlsMask</code>	<code>ctrls</code>	<code>(1L<<0)</code>
<code>XkbServerMapMask</code>	<code>server</code>	<code>(1L<<1)</code>
<code>XkbIClientMapMask</code>	<code>map</code>	<code>(1L<<2)</code>
<code>XkbIndicatorMapMask</code>	<code>indicators</code>	<code>(1L<<3)</code>
<code>XkbNamesMask</code>	<code>names</code>	<code>(1L<<4)</code>
<code>XkbCompatMapMask</code>	<code>compat</code>	<code>(1L<<5)</code>
<code>XkbGeometryMask</code>	<code>geom</code>	<code>(1L<<6)</code>
<code>XkbAllComponentsMask</code>	All Fields	<code>(0x7f)</code>

The `Xkb` server map contains the information the server needs to interpret key events and is of type `XkbServerMapRec`:

```
#define XkbNumVirtualMods    16

typedef struct {
    /* Server Map */
    unsigned short  num_acts; /* # of occupied entries in acts */
    unsigned short  size_acts; /* # of entries in acts */
    XkbAction *     acts; /* linear 2d tables of key actions, 1 per keycode */
    XkbBehavior *   behaviors; /* key behaviors, 1 per keycode */
    unsigned short * key_acts; /* index into acts, 1 per keycode */
    unsigned char * explicit; /* explicit overrides of core remapping, 1 per key */
    unsigned char   vmods[XkbNumVirtualMods]; /* real mods bound to virtual mods */
    unsigned short * vmodmap; /* virtual mods bound to key, 1 per keycode */
} XkbServerMapRec, *XkbServerMapPtr;
```