```
#ifndef XBEE_H
#define XBEE_H

#define XBEE_CON_ADDR16      (0x0001) /* **** **** **** ***1 */
#define XBEE_CON_ADDR64      (0x0002) /* **** **** **** **1* */
#define XBEE_CON_MODEAT      (0x0004) /* **** **** **** *1** */
#define XBEE_CON_MODEDATA    (0x0008) /* **** **** **** 1*** */
#define XBEE_CON_ATMLOCAL    (0x0010) /* **** **** ***1 **** */
#define XBEE_CON_ATMREMOTE   (0x0020) /* **** **** **1* **** */
#define XBEE_CON_MODEIO      (0x0040) /* **** **** *1** **** */

enum xbee_types {
  xbee_unknown,

  xbee_localAT, /* frame ID */

  xbee_remoteAT,
  xbee_16bitRemoteAT, /* frame ID */
  xbee_64bitRemoteAT, /* frame ID */

  xbee_16bitData, /* frame ID for ACKs */
  xbee_64bitData, /* frame ID for ACKs  */

  xbee_16bitIO,
  xbee_64bitIO,

  xbee_txStatus,
  xbee_modemStatus
};
typedef enum xbee_types xbee_types;

struct xbee_con {
  unsigned int tAddr64       : 1;
  unsigned int atQueue       : 1; /* queues AT commands until AC is sent */
  unsigned int txDisableACK  : 1;
  unsigned int txBroadcast   : 1; /* broadcasts to PAN */
  unsigned int __spare__     : 4;
  xbee_types type;
  unsigned char frameID;
  unsigned char tAddr[8];         /* 64-bit 0-7   16-bit 0-1 */
  struct xbee_con *next;
};
typedef struct xbee_con xbee_con;

struct xbee_pkt {
  unsigned int sAddr64        : 1; /* yes / no */
  unsigned int dataPkt        : 1; /* if no - AT packet */
  unsigned int txStatusPkt    : 1;
  unsigned int modemStatusPkt : 1;
  unsigned int remoteATPkt    : 1;
  unsigned int IOPkt          : 1;
  unsigned int __spare__      : 2;
  xbee_types type;
  unsigned char frameID;          /* AT        Status    */
  unsigned char atCmd[2];         /* AT                  */
  unsigned char status;           /* AT  Data  Status    */ /* status / options */
  unsigned char Addr64[8];        /* AT  Data            */
  unsigned char Addr16[2];        /* AT  Data            */
  unsigned char data[128];        /* AT  Data            */
  unsigned char RSSI;             /*     Data            */
  unsigned int datalen;

  /* X  A5 A4 A3 A2 A1 A0 D8    D7 D6 D5 D4 D3 D2 D1 D0 */
  unsigned short IOmask;          /*                 IO */

  /* X  X  X  X  X  X  X  D8    D7 D6 D5 D4 D3 D2 D1 D0 */
  unsigned short IOdata;          /*                 IO */

  /* X  X  X  X  X  D  D  D     D  D  D  D  D  D  D  D  */
  unsigned short IOanalog[6];     /*                 IO */

  struct xbee_pkt *next;
};
typedef struct xbee_pkt xbee_pkt;

void xbee_setup(char *path);
xbee_con *xbee_newcon(unsigned char *tAddr, unsigned char frameID, unsigned int options);
int xbee_senddata(xbee_con *con, char *format, ...);
xbee_pkt *xbee_getpacket(xbee_con *con);

#endif
```